

National Aeronautics and Space Administration

Ames Research Center
Moffett Field, California 94035



January 13, 2017

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
Department of Parks & Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Attn: Mr. Mark Beason
State Historian II
Office of Historic Preservation
Department of Parks & Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Subject: Section 106 Consultation for the construction of the Electric Vehicle Charging Station (EVCS) Project at NASA Ames Research Center, Moffett Field, California.

Dear Ms. Polanco:

In support of its responsibilities under Section 106 of the National Historic Preservation Act (NHPA), the National Aeronautics and Space Administration (NASA) requests initiation of Section 106 consultation for the Electric Vehicle Charging Station (EVCS) Project (project or undertaking) located at Ames Research Center (ARC) at Moffett Field, California (Attachment A, Figure 1). NASA has determined that this project constitutes an undertaking under the NHPA. NASA requests your review and consultation concerning the following project description, the delineation of the Area of Potential Effects (APE), identification efforts, and effects analysis for the project. The electric vehicle charging stations will provide both the NASA Ames community as well as the general public of the Mountain View and Sunnyvale area the ability to conveniently and quickly charge their electric vehicles using medium voltage direct current. The construction of this charging station will encourage widespread EV usage in the area and also promote an environmentally conscious approach to daily life, a principle fully embraced by NASA. NASA requests the State Historic Preservation Officer's (SHPO) review and concurrence on NASA's finding of No Adverse Effect related to this project, pursuant to 36 Code of Federal Regulations (CFR) 800.5(b).

Description of the Undertaking

NASA has developed plans for the largest direct current fast charger (DCFC) installation in the Bay Area. This installation aims to not only decrease EV charging wait times, but also greatly encourage the widespread EV usage in the area. The Ames DCFC installation will be directly off Highway 101 and within the Ames Visitor Center parking lot, making the site easily accessible to the general public. The project site is located at the southwest corner of Moffett Boulevard and RT Jones Road, adjacent to the Visitor Registration and Pass Office - Building 26, the Visitor Center - Building 943A and Military housing complex, The Villages at Moffett and Parks on Berry Court. (Attachment A, Figure 2) (Plate 1).



Plate 1. Project site, view facing west (Military housing in background).

The proposed EVCS project will consist of 1) the installation of one 15KV / 480V PG&E transformer measuring 4 ft. x 5 ft. placed on reinforced concrete pad, 2) the installation of one 480V / 208V PG&E transformer measuring 2 ft. x 1.5 ft. placed on reinforced concrete pad, 3) the installation of one 5 ft. x 2 ft. combination circuit breaker and electrical panel placed on a reinforced concrete pad, 4) the installation of eight 6.5 ft. x 2 ft. direct current fast chargers (DCFC) placed on reinforced concrete pads, and 5) the installation of designated EV parking stalls and relative parking signage and bollards. A conceptual image of the EV charger installation is provided in Plate 2. The transformer location, meter location, charger location, equipment drawings and the project footprint are illustrated in the site plan and detail drawings provided in Attachment B. The project site is approximately 200 ft. x 90 ft. The concrete pads will be just above finish grade.



**Plate 2. Conceptual installation of EVCS, view facing southwest
(Military housing and Visitor Center - Building 943A in background)**

Construction of the proposed EVCS will include trenching for electrical conduit connections and possible repair of existing underground utilities within the project site. The depth of directional boring, trenching and overall ground disturbance for construction will range in areas from 16 in. for the concrete pad, 36 in. for the electrical systems, and 96 in. for the concrete bollards. The staging area will be limited to the back end of the parking lot adjacent to the Visitor Center - Building 943A (Plate 3).



Plate 3. Staging area, view facing south (Military housing in the background).

Area of Potential Effects

For archaeological resources, the APE is defined as the limits of disturbance, including areas of temporary staging, all construction ground disturbance as well as vertical ground disturbance. The APE boundary also includes adjacent areas where potential historic properties could be indirectly affected by the project. The APE is delineated to encompass the first tier of surrounding buildings adjacent to the project's footprint, as shown in Attachment A, Figure 3, as well as 96 in. into the ground (depth of bollards) to account for the vertical APE. Taking into consideration its proximity to resources within the NAS Sunnyvale Historic District, NASA has determined that this is an adequate APE to address any potential effects on historic properties.

Archaeological Site Sensitivity

The project area that will contain ground disturbance is 1) primarily a landscaped site with manicured lawns and 2) currently a parking lot. Prior to its function as a parking lot, the area was the site of Building 943, demolished in 2008 under Ames' previous Programmatic Agreement (PA) with SHPO. Abandoned and existing utilities are found throughout the lawn and parking lot areas of the project. (Attachment A, Figure 3) A records search was conducted of the entire Center for the Draft Archeological Resources Study in August 2016 and no resources were identified in the project site. Surrounding the project site are areas also largely disturbed with previous grading, trenching, and boring associated with the Planetary Ventures' (PV) Main Gate Realignment Project and its necessary road widening at RT Jones Road, Clark Road, and Moffett Boulevard ("Moffett Intersection"). The referenced undertaking, the *Main Gate Realignment Project, NASA Ames Research Center, Moffett Field, CA* was submitted to SHPO and on June 4, 2013, SHPO concurred with NASA's finding of No Adverse Effects. Lastly, in February 2016, an archaeological evaluation was performed when remains of a modern ungulate, likely a small cow or sheep were found within the APE. The discovery was not archaeological in nature; the memorandum of the evaluation is provided in Attachment C.

Identification of Historic Properties

Located at the west end of the NAS Sunnyvale Historic District, the Visitor Registration & Pass Office - Building 26 is the only contributing resource located within the APE. While this resource overlaps with a portion of the APE, it still remains outside of the project site. There are a total of 11 standing structures within the APE. The 10 remaining buildings, consisting of the NASA Ames Visitor Center - Building 943A and 9 buildings from the Military housing complex - The Villages at Moffett and Parks, built in 1996 and 2004, respectively, are all non-contributors and are not over 50 years old. (Attachment A, Figure 3) These buildings do not exhibit the potential for exceptional significance to be eligible under the National Register of Historic Places (NRHP) Criteria Consideration G and therefore were not evaluated further and are not considered eligible for listing in the NRHP.

Affected Historic Properties

On February 24, 1994, the NAS Sunnyvale Historic District (also known as Shenandoah Plaza Historic District) was nominated by the US Navy and listed in the NRHP. Building 26 is a one-story, concrete building finished in colored stucco and has a clay tile hipped roof. Historically known as the Gate House, the L-shaped planned building features an arcade running along the west elevation and has an adjoining two-story bay at its southeast corner.

Assessment of Effects

The Criteria of Adverse Effect pursuant to 36 CFR 800.5(a)(1) are applied to assess effects of the undertaking on historic properties within the APE:

- (1) Criteria of adverse effect. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

The EVCS project does not propose to alter any historic properties as the project site is outside of the NAS Sunnyvale Historic District. The design, scale and location of the EVCS equipment will not visually affect any historic contributors as it is orientated to face outwards towards Highway 101, opposite to that of the historic district. Building 26 represents the entrance into Shenandoah Plaza Historic District. As such, the EVCS's visual orientation does not negatively affect the viewing corridor into the Shenandoah Plaza or the historic integrity of the district. If the project potentially uncovers unknown subsurface archaeological resources, NASA will follow its Standard Operating Procedures (SOP) for unanticipated discoveries as outlined in the 2014 Draft Integrated Cultural Resources Management Plan (AECOM 2014).


Public Participation

Pursuant to 36 CFR 800.5(c), NASA will make its finding for this undertaking available to the public and any consulting parties, as specified in 36 CFR 800.11(e). Currently, no federally recognized Native American Tribes are associated with the location of the APE.

Conclusions

NASA has determined that a finding of No Adverse Effect is appropriate for the EVCS project and is seeking the SHPO's concurrence with this determination. NASA requests the SHPO's concurrence within 30 days as specified in 36 CFR 800.5(c). Please contact me at keith.venter@nasa.gov or at (650) 604-6408 with your comments or questions.

Sincerely,



Keith Venter
Architect/ Historic Preservation Officer
Facilities Engineering Branch



NASA Ames Research Center
Mail Stop 213-8
Moffett Field, California 94035

cc:
HQ/EMD/Ms. Klein, Ph.D., RPA

Prepared By
Jonathan Ikan
ARC Deputy Historic Preservation Officer

Attachments
A. Maps
B. Site Plan/ Detail Drawings
C: Memorandum

References
AECOM Technical Services, Inc.
2014 Draft Integrated Cultural Resources Management Plan for Ames Research Center.
Main Gate Realignment Project, NASA Ames Research Center, Moffett Field, CA

ATTACHMENT A

MAPS

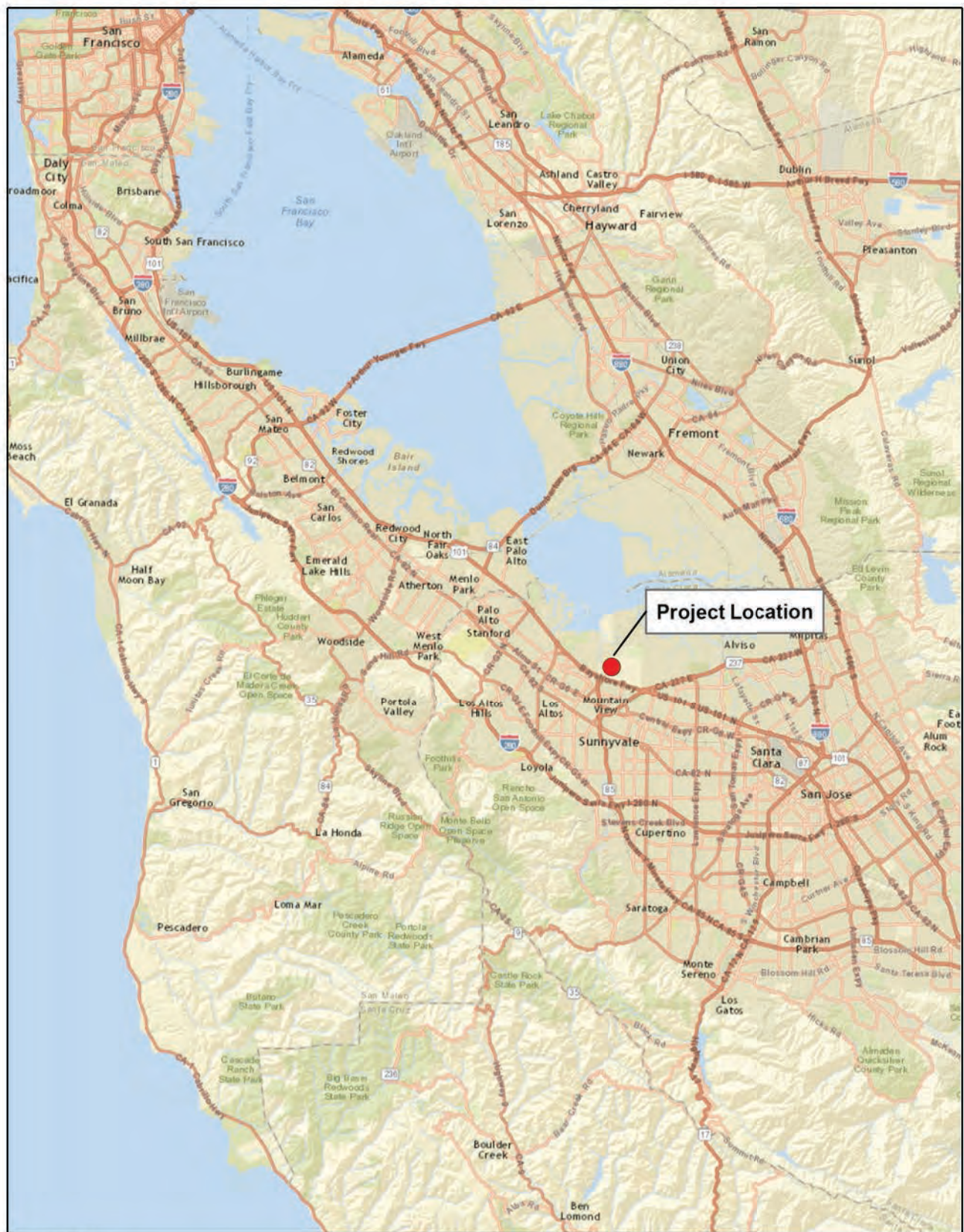
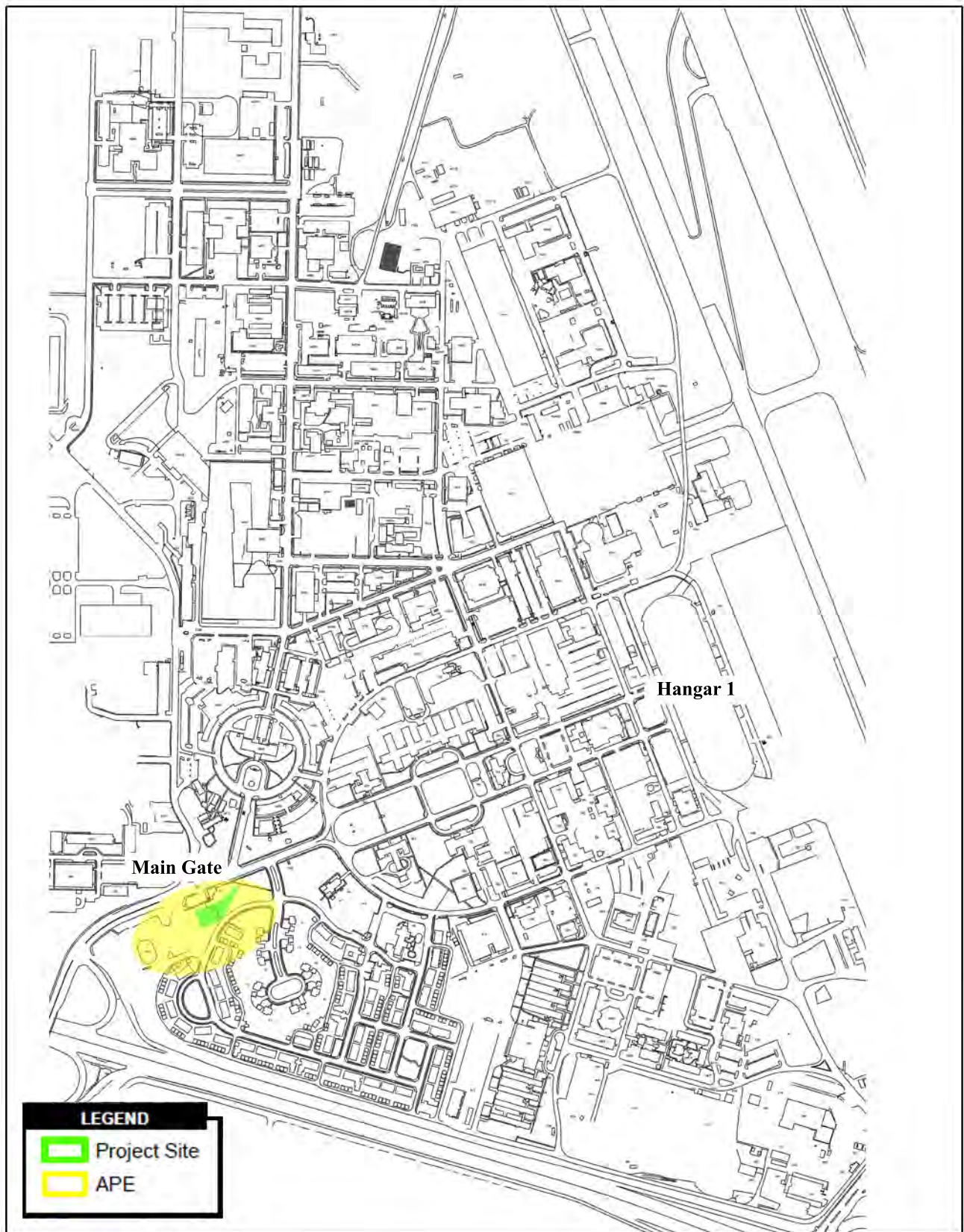


Figure 1 Regional Map

NASA Electric Vehicle Charging Stations at ARC



Source: Microsoft 2015; ESRI 2015



2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

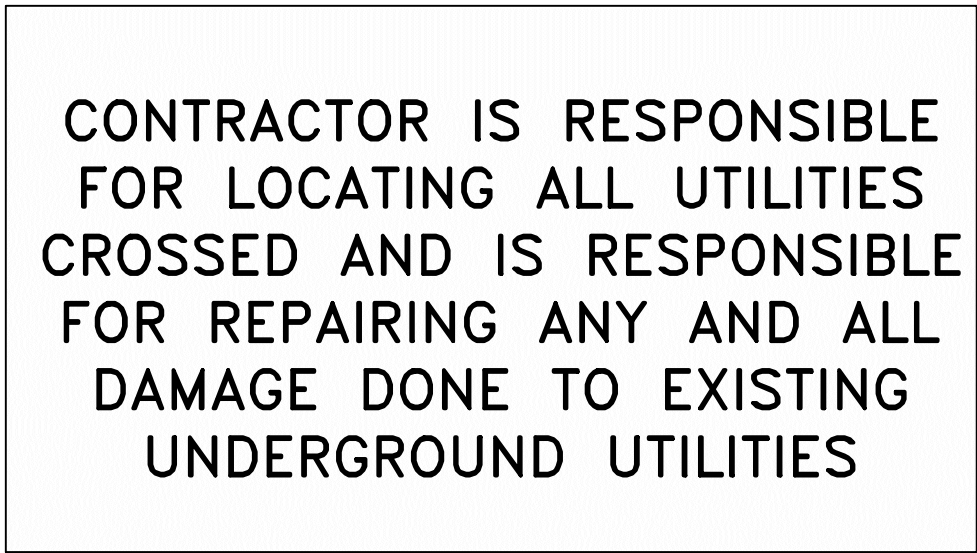
Figure 2
Project Site



Figure 3
Area of Potential Effects

ATTACHMENT B

DRAWINGS

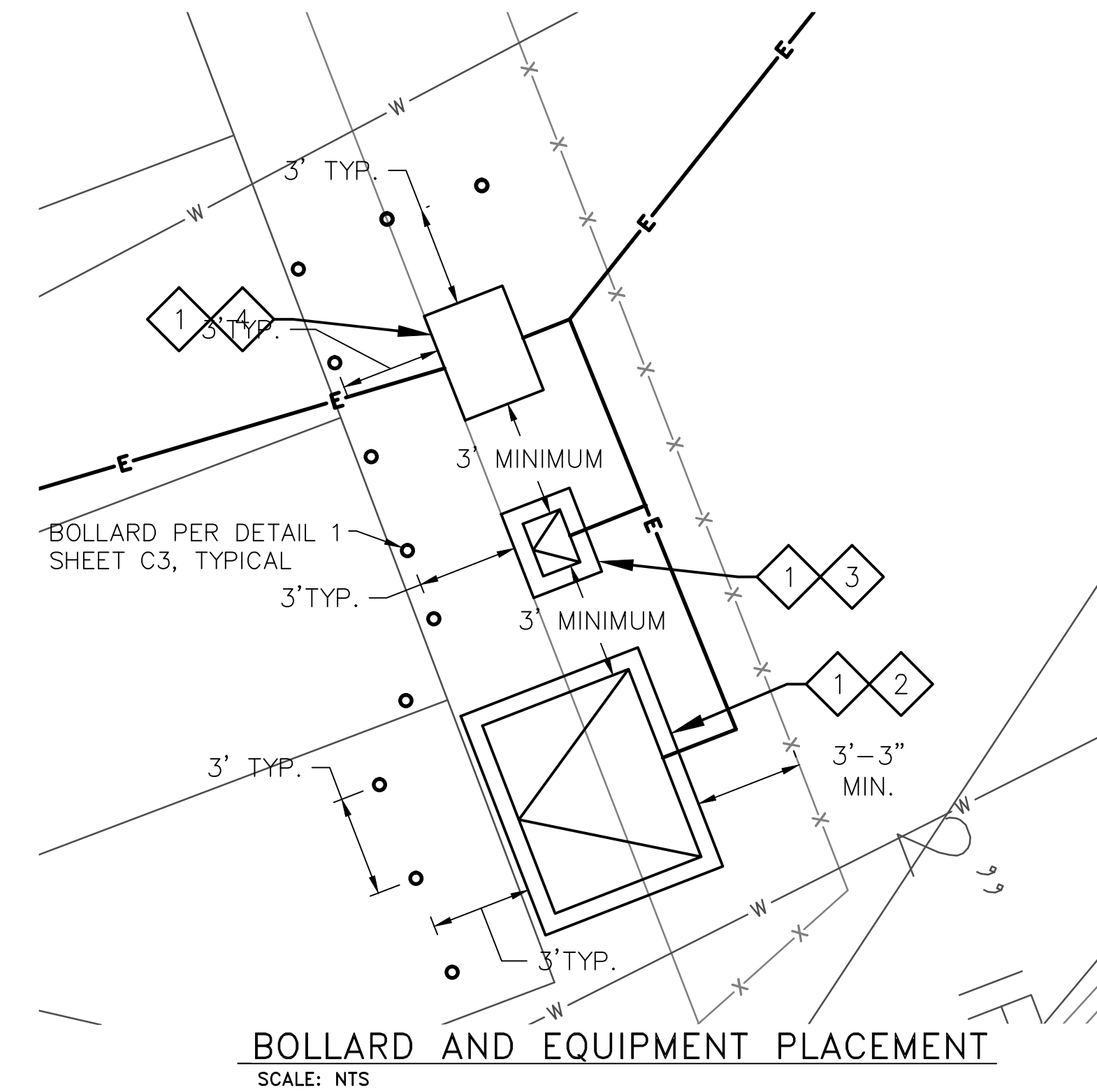




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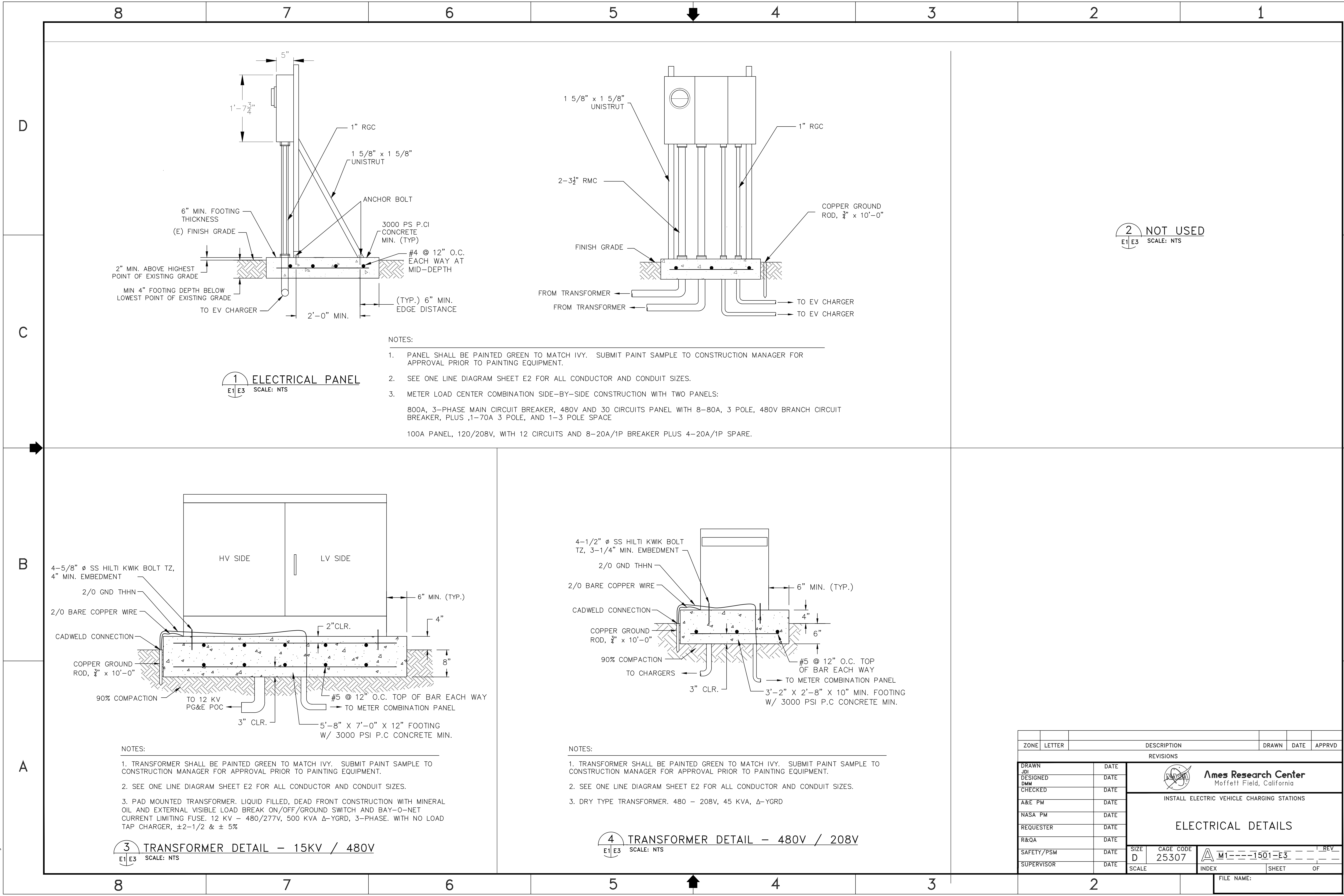
SCALE: 1" = 20'

1. PROTECTION: PROTECT (E) UTILITIES, PROPERTY AND EQUIPMENT. OBTAIN (E) UTILITY INFORMATION FROM GIS AND SURVEY (E) UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION WORK. LIMIT SURFACE LOADING TO 8,000 LBS PER SQUARE FOOT IN PAVEMENT AREAS AND 2,000 LBS PER SQUARE FOOT FOR NON-PAVED AREAS.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
3. STOCKPILES OR EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILL MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS MUST BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
5. ALL TRAFFIC MARKING PAINT SHALL CONFORM TO THE BAAQMD MAX. VOC LIMITS.
6. RE-SOD GRASS IN DISTURBED LANDSCAPING AREAS.

1	PAINTEQUIPMENT GREEN TO MATCH IVY. SUBMIT PAINT SAMPLES FOR APPROVAL TO CONSTRUCTION MANAGER PRIOR TO PAINTING EQUIPMENT.
2	15KV/480V TRANSFORMER. SEE SHEET E3.
3	480V/208V TRANSFORMER. SEE SHEET E3.
4	METER COMBINATION PANEL. SEE SHEET E3.



ZONE	LETTER	DESCRIPTION	DRAWN	DATE	APPROVD
REVISIONS					
DRAWN JDI	DATE	<div><div>Ames Research Center Moffett Field, California</div></div> <div>INSTALL ELECTRIC VEHICLE CHARGING STATIONS</div> <div>SITE PLAN</div>			
DESIGNED DNM	DATE				
CHECKED	DATE				
A&E PM	DATE				
NASA PM	DATE				
REQUESTER	DATE				
R&QA	DATE				
SAFETY/PSM	DATE	SIZE D	CAGE CODE 25307	 M1---1500-C1	REV _ _
SUPERVISOR	DATE	SCALE 1"—20'	INDEX	SHEET	OF
FILE NAME:					



1 ELECTRICAL PANEL
E1 E3 SCALE: NTS

- NOTES:
- PANEL SHALL BE PAINTED GREEN TO MATCH IVY. SUBMIT PAINT SAMPLE TO CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO PAINTING EQUIPMENT.
 - SEE ONE LINE DIAGRAM SHEET E2 FOR ALL CONDUCTOR AND CONDUIT SIZES.
 - METER LOAD CENTER COMBINATION SIDE-BY-SIDE CONSTRUCTION WITH TWO PANELS:
800A, 3-PHASE MAIN CIRCUIT BREAKER, 480V AND 30 CIRCUITS PANEL WITH 8-80A, 3 POLE, 480V BRANCH CIRCUIT BREAKER, PLUS ,1-70A 3 POLE, AND 1-3 POLE SPACE
100A PANEL, 120/208V, WITH 12 CIRCUITS AND 8-20A/1P BREAKER PLUS 4-20A/1P SPARE.


- NOTES:
- TRANSFORMER SHALL BE PAINTED GREEN TO MATCH IVY. SUBMIT PAINT SAMPLE TO CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO PAINTING EQUIPMENT.
 - SEE ONE LINE DIAGRAM SHEET E2 FOR ALL CONDUCTOR AND CONDUIT SIZES.
 - PAD MOUNTED TRANSFORMER. LIQUID FILLED, DEAD FRONT CONSTRUCTION WITH MINERAL OIL AND EXTERNAL VISIBLE LOAD BREAK ON/OFF/GROUND SWITCH AND BAY-O-NET CURRENT LIMITING FUSE. 12 KV - 480/277V, 500 KVA Δ-YGRD, 3-PHASE. WITH NO LOAD TAP CHARGER, ±2-1/2 & ± 5%

3 TRANSFORMER DETAIL - 15KV / 480V
E1 E3 SCALE: NTS

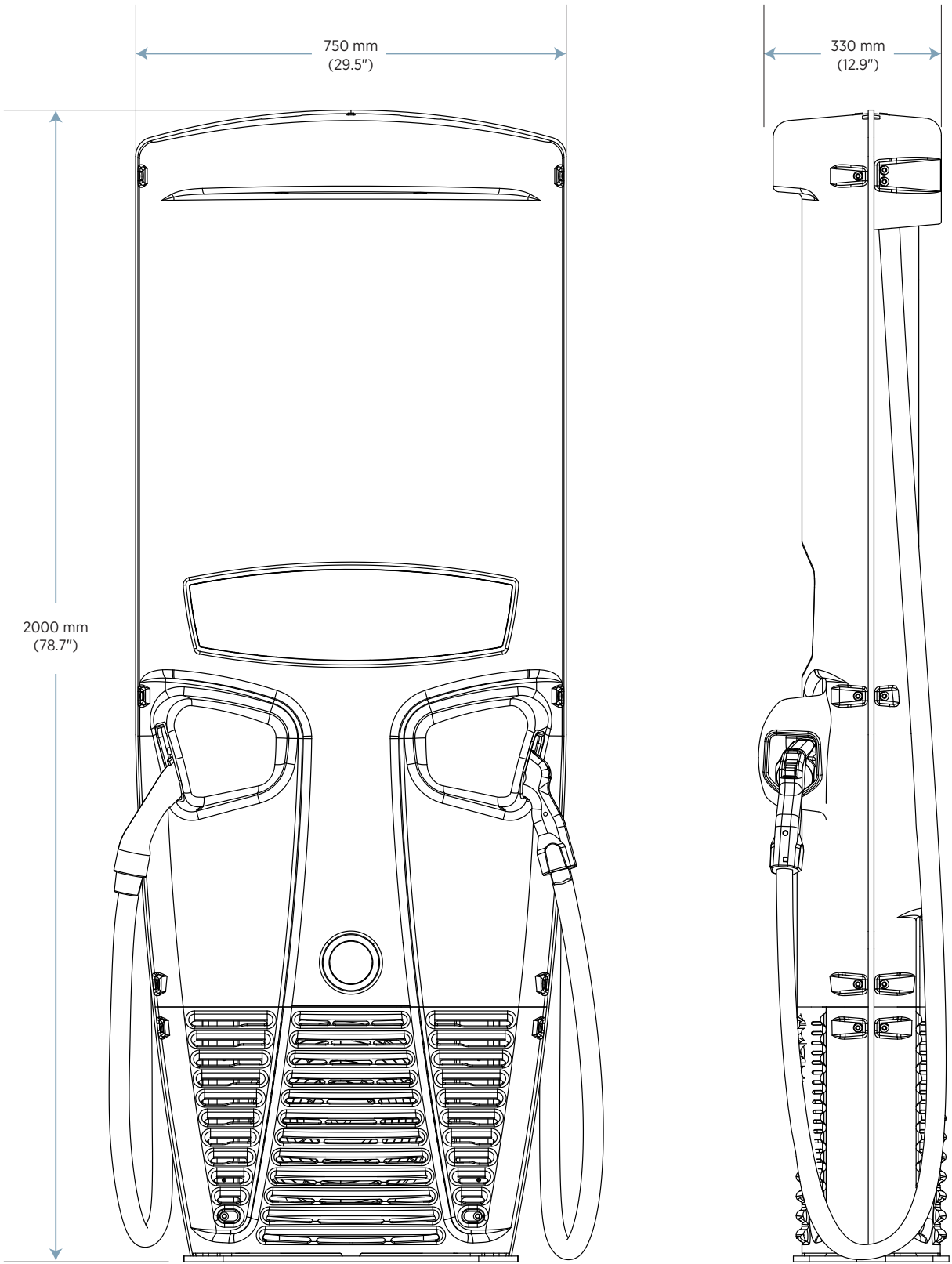
- NOTES:
- TRANSFORMER SHALL BE PAINTED GREEN TO MATCH IVY. SUBMIT PAINT SAMPLE TO CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO PAINTING EQUIPMENT.
 - SEE ONE LINE DIAGRAM SHEET E2 FOR ALL CONDUCTOR AND CONDUIT SIZES.
 - DRY TYPE TRANSFORMER. 480 - 208V, 45 KVA, Δ-YGRD

4 TRANSFORMER DETAIL - 480V / 208V
E1 E3 SCALE: NTS

2 NOT USED
E1 E3 SCALE: NTS

ZONE	LETTER	DESCRIPTION		DRAWN	DATE	APPRVD
REVISIONS						
DRAWN	JDI	DATE	<div> Ames Research Center Moffett Field, California</div>			
DESIGNED	DM	DATE				
CHECKED		DATE				
A&E	PM	DATE	INSTALL ELECTRIC VEHICLE CHARGING STATIONS			
NASA	PM	DATE				
REQUESTER		DATE				
R&QA		DATE				
SAFETY/PSM		DATE				
SUPERVISOR		DATE	ELECTRICAL DETAILS			
SIZE		CAGE CODE		REV		
D		25307		M1---1501-E3		
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FILE NAME:						

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ATTACHMENT C

MEMORANDUM

Memorandum

To	Keith Venter, NASA Ames Historic Preservation Officer	Page	1 of 2
CC	Geoff Lee, NASA Ames Planetary Ventures Liaison		
Subject	NASA Ames Clark Gate Faunal Discovery		
From	Larry Singer, Principal AECOM		
Date	March 3, 2016		

The NASA Ames Research Center is completing a series of construction activities during the implementation of a campus-wide Development Plan. The project is being completed using federal funds and an Environmental Impact Statement (EIS) was prepared for the Development Plan to address the project's impacts on the environment, including cultural resources. The EIS also addressed procedures for compliance with federal laws including Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Part 800) and the Archaeological Resources Protection Act (ARPA).

On Friday, February 26, 2016, faunal remains were discovered during construction activities at Clark Gate. Per the EIS and NASA Ames Research Center's November 2014 Integrated Cultural Resources Management Plan (ICRMP), work was ceased and the location was barricaded until the discovery could be properly evaluated. That day, photographs of the remains and trench were electronically sent to AECOM Senior Project Archaeologist Mark Hale. From the pictures, Mr. Hale provided a preliminary assessment that the remains discovered were that of a modern ungulate (hooved animal such as sheep or goat) and that the animal had been entombed within the base material. As such, Mr. Hale did not feel that the discovery was archaeological in nature.

An actual physical inspection of the discovery in compliance with the ICRMP was conducted on the morning of Saturday, February 27, 2016 by AECOM Archaeologist Jennifer Redmond. Ms. Redmond confirmed that the discovery consisted of the remains of an ungulate, likely a small cow or a sheep. Fragments of the mandible, vertebrae, and long bones were visible within the exposure. The bones were situated within the sandy, gravelly road base just below the pavement. Underlying the road base was dark gray clay. No cut marks were visible on the bones and there were no additional materials suggesting this find constituted an archaeological site.

Mitigation Measure CUL-1 of the EIS states that:

In the event that human remains and/or cultural materials are found in the process of implementing the NADP, all project-related construction would cease within a 15 meter (50-foot) radius in order to proceed with the testing and mitigation measures required pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California. The State Historic Preservation Officer and the NASA Federal Preservation Officer would be contacted as soon as possible. Construction in the affected area would not resume until the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) have been satisfied.

While Mitigation Measure CUL-1 is to be implemented in the event a previously unknown archaeological site is discovered during construction activities, this find was determined not to constitute an archaeological site and the mitigation measure was therefore not implemented. Furthermore, as the skeletal remains were modern and thus did not represent an archaeological resource, excavation was allowed to continue in compliance with Procedure II. A of the ICRMP which states:

II. When notified of the possible discovery of unexpected buried archaeological material, the EMD will arrange to have a professional archaeologist evaluate the site. Work will cease and the site will be protected pending the results of the evaluation.

A. If fossils, natural stones, concretions, or other such items that are sometimes mistaken for archaeological materials are recovered, then the EMD may allow the excavation to proceed without further action.

The procedures implemented following the discovery by NASA, AECOM, and the excavation contractor were in compliance with both the EIS and the ICRMP, and the archaeological effort conducted by AECOM to assess the discovery met the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 Federal Register 44716).